



State and Private Forestry Fact Sheet

Hawaii 2019



Investment in State's Cooperative Programs

Program	FY 2018 Final
Community Forestry and Open Space	\$550,000
Cooperative Lands - Forest Health Management	\$651,940
Forest Legacy	\$5,500,000
Forest Stewardship	\$239,360
Landscape Scale Restoration	\$353,800
State Fire Assistance	\$794,127
Urban and Community Forestry	\$285,030
Volunteer Fire Assistance	\$50,000
Total	\$8,424,257

NOTE: This funding is for all entities within the state, not just the State Forester's office.

The mission of the Division of Forestry and Wildlife (DOFAW) of the Hawaii Department of Land and Natural Resources (DLNR) is to responsibly manage and protect watersheds, native ecosystems, and cultural resources and provide outdoor recreation and sustainable forest products opportunities, while facilitating partnerships, community involvement, and education. Cooperative forestry programs, administered and implemented through a partnership between the State of Hawaii, U.S. Forest Service, and many other private and government entities help to fulfill DOFAW's mission. DOFAW and its partners work to protect and restore forests to enhance watershed functions, provide habitat for threatened and endangered species, mitigate wildfire threats, and support many other benefits for current and future generations. Additionally, Hawaii's Forest Action Plan (FAP) provides nine priority issues, including: 1) Water Quality and Quantity; 2) Forest Health: Invasive Species, Insects, and Disease; 3) Wildfire; 4) Urban and Community Forestry; 5) Climate Change and Sea Level Rise; 6) Conservation of Native Biodiversity; 7) Hunting, Nature Based Recreation and Tourism; 8) Forest Products and Carbon Sequestration; and 9) U.S. Tropical Island State and Territorial Issues. Consistent with Hawaii's FAP, reversing the trend of natural resource loss by increasing watershed protection, invasive species prevention and control, and restoration of native species has been identified as a target to be achieved by 2030 in the Aloha+ Challenge, a statewide commitment crossing jurisdictions, agencies, sectors, and communities to sustain resources. DOFAW, which manages a quarter of the land in Hawaii, continues to work with partners to enhance the resilience of the State's wildland and urban forests so they are capable of providing the public benefits and ecosystem services upon which our islands depend. Ultimately, forests play a large role in the health of Hawaii's economy, residents, and visitors.

Program Goals

- Protect and maintain forested watersheds for water recharge and other ecosystem services.
- Promote sustainable forest management to generate a variety of forest products and jobs.
- Preserve, enhance, and restore habitat necessary to sustain native species and ecosystems.
- Maintain public trails and access roads used for fishing, hiking, camping, and hunting.
- Enhance awareness of threats posed by invasive species and continue to collaborate with partners throughout the State and the Pacific islands region to prevent the spread of invasive species.
- Improve the health and viability of urban forests through educational programs, technical and financial assistance, and public/private partnerships.
- Train teachers in environmental education, offer youth internships, provide volunteer opportunities, and support green jobs.
- Purchase land and develop conservation easements to preserve and restore forested areas that are threatened by development or fragmentation.
- Provide technical and financial assistance to landowners and long-term leaseholders of privately

managed forests.

- Reduce the negative impacts of wildfires on native ecosystems, forests, and watersheds as well as communities and the threatened rare habitats near them.

Key Issues

- Respond to the detection of new fungus killing on of Hawaii's most important forest tree species, ohia, which makes up 50% of all of the forests in Hawaii. The disease, locally referred to Rapid Ohia Death, has affected an estimated 135,000 acres and threatens forest statewide. DOFAW is coordinating with other state, federal, and county agencies to effectively respond to this new disease threat
- The sustainable yield of freshwater depends on the protection of forested watersheds throughout the State and continues to be a priority for forestry. The State of Hawaii has committed to protection of 30% of highest priority watersheds by 2030.
- Preventing and responding to new invasive species that threaten forests in Hawaii, while effectively managing widely established pest species through Integrated Pest Management.
- Fire-tolerant invasive grasses, periods of drought, and land use and population growth trends continue to be a concern for the Fire Management Program. Hawaii is on par with the western states for percentage of land area burned. Enhancing DOFAW's capacity to restore and maintain landscapes, support fire adapted communities, and respond to wildfires will depend largely on its ability to secure funds and strengthen collaborative partnerships across areas of expertise and jurisdictional boundaries.
- Climate change poses current and long-term threats to Hawaii's forests, as well as new opportunities to support large-scale reforestation for carbon sequestration. Threats include: (1) Regional Climate Assessments predict warmer and drier conditions will contribute to declining freshwater supplies and increase the risk of extinctions. (2) Nearly a third of the nation's listed species are found in Hawaii with habitat limited by temperature gradients; as areas warm species habitats may be lost.

Forest Facts and Accomplishments

Selected Facts	Value	FY 2018 Accomplishments	Value
Population	1,360,301	Landowners Receiving Educational or Technical Assistance	881
Acres of Forest Land	1,471,180	Acres Covered by New or Revised Forest Stewardship Plans	83
Acres of Nonindustrial Private Forest Land	1,155,000	Acres in Important Forest Resource Areas Covered by New or Revised Stewardship Plans	26
Number of NIPF Landowners	25,000	Volunteer Fire Departments Assisted	9
Acres of Federal Land Under State Fire Protection	0	State Fire Communities Assisted	118
Acres of Private Land Under State Fire Protection	2,300,000	Coop Forest Health Acres Protected	1,515
Number of Rural Fire Departments	4	Forest Legacy Project Acquisitions	0
Cities and Towns	5	Communities Provided Urban Forestry Program Assistance	75
Forest Based Employment	926	Population Living in Communities Provided Urban Forestry Program Assistance	1,175,104
Economic Impact of Forestry (by rank)	19	Urban Forestry Volunteer Assistance	17,824
State Forestry Budget (All Sources)	53,865,282		

Program Highlights

Carbon Sequestration Projects

In an effort to support Hawaii's ambitious goal of achieving climate neutrality by 2045, the Division of Forestry and Wildlife has launched two forest carbon pilot projects that will reforest over 3,000 acres of alien grass and shrub lands and explore the economics of the forest carbon offset mechanism while restoring critical habitat for endangered species, increasing freshwater recharge and resulting in a range

of other co-benefits.

Conservation Education

Hawaii continues to support the Project Learning Tree (PLT) Program, and expand its network of environmental educators. PLT is a national program that provides Hawaii's educators with locally- and nationally-relevant resources that connect to state education standards. This provides teachers and educators with the tools to teach environmental education to their students, while connecting students and learners to place-based issues. The Hawai'i PLT program completed eight PLT educator trainings on five islands, reaching 60 educators.

Cooperative Fire Protection

Unlike the drought conditions of 2017, 2018 rainfall was above average with record rainfall events including 49.69 inches in 24 hours April 14-15 on Kauai, and the highest amount of rain in the US from a tropical cyclone with Hurricane Lane dropping 52.02 inches from August 22-26. Unfortunately, even with those record rains Hawaii had a very active fire season with DOFAW responding to 13 fires totaling 30,593 acres. DOFAW staff also served on multiple IMT's for the Kauai flooding, three tropical cyclones, and the Kilauea Lava event. DOFAW staff attended several public events throughout the year promoting wildfire prevention and collaborated with their county and federal partners to kick off fire prevention week at the Honolulu zoo. Hawaii's Firewise communities grew to 13 with the addition of Kamilonui-Mariner's Cove on Oahu and Puu Kapu on Hawaii island. Another "Wildfire LOOK OUT!" campaign was started in August, without the drought component of 2017. Firebreaks statewide were maintained, and three more new brush trucks were added to the fleet on Maui. While there was one WUI grant application from Hawaii, unfortunately it was not ranked high enough to qualify for a grant.

Economic Action

In 2018 Hawaii was awarded a Wood Innovations Grant for the first time. The projects initiated and funded through this grant include the establishment of 1) a statewide, cross-sectoral Wood Utilization Team with experts from forestry, construction, research, engineering, financing, wood processing, wood products, marketing industries and cultural practices; 2) a statewide wood products directory of companies and organizations involved in local wood products markets; and 3) the design and build of a prototype made of local wood products. The team is working closely with industry associations and with the university to expand local wood products markets. At the same time, the Division of Forestry and Wildlife is increasing its effort to make sustainable wood resources available to the local industry.

Forest Health Protection

Rapid Ohia Death (ROD) continues to be the focus of the forest health program in Hawaii. The disease is caused by two recently described fungi and threatens Hawaii's most important native tree species. The disease which has affected approximately 135,000 acres on Hawaii island was recently detected on the island of Kauai through early detection surveys. The State of Hawaii's legislature appropriated \$1.5M for research, survey, control, and outreach on ROD for state fiscal year 2019. Research efforts include treatment of infected ohia logs, genetic fingerprinting to track disease origin and spread, role of ambrosia beetles in disease spread, better detection tools, and disease biology.

The Division continues to work with biological control practitioners in the state to promote release of safe biological control for Hawaii's most damaging invasive species such as miconia, Christmas berry, cane tibouchina, and the erythrina gall wasp. These projects are currently undergoing environmental review and releases are expected in 2020. Biological control is the most cost-effective management solution to many of Hawaii's worst forest threats.

Quarantine restrictions on live plant material from the Myrtaceae family at the state and federal level are in the process to protect ohia from future pest infestations, including additional strains of the rust disease, *Austropuccinia psidii* which has been present in Hawaii since 2005. This disease poses an additional threat to Hawaii's most important tree species and is considered one of the worst forest pests worldwide, moving around the globe with living plant material.

Forest Legacy

The purpose of the Hawaii Forest Legacy Program is to identify environmentally important forestlands and to protect them from conversion to non-forest uses. In doing so, the program facilitates the conservation

and preservation of forest product resources, watersheds, wildlife, scenic enjoyment, recreation, cultural and native species resources, and other ecologically important values. DOFAW supports acquisition through the program for conservation purposes and/or sustainable management of forests with the support of land trust/non-profit partners. Specific Forest Legacy projects in Hawaii include assisting the Office of Hawaiian Affairs with the Wao Kele O Puna Forest Reserve (Hawaii Island); holding a conservation easement at Kealakekua Heritage Ranch and Kaawaloa Forest (Hawaii Island); and providing monitoring support for U.S. Forest Service conservation easement projects in South Kona (Hawaii Island). DOFAW closed on the acquisition for Helemano Wilderness Area (Oahu - 3,000 acres fee title) in 2018 and will engage the community and stakeholders on the access, use, and management of this significant addition to public forest lands on Hawaii's most populated island. Due diligence for other pending program acquisitions is underway including Hoomau Ranch (Hawaii Island - 765 acres conservation easement), Haloa Aina (Hawaii Island - 2800 acres conservation easement) and Kamehamenui Forest (Maui - 3,000 acre fee title).

Forest Stewardship

The Forest Stewardship Program (FSP) enables private landowners or long-term leaseholders to restore, conserve, and responsibly manage important forest resources that provide vital public and private socioeconomic and environmental benefits. The majority of Hawaii's forests, 66% or 1,155,000 acres of Hawaii's 1,748,000 acres of forestland, is privately owned or managed. By establishing and maintaining the FSP, the State recognizes that public-private partnerships are essential to the present and future health of Hawaii's forests and to the public benefits that they provide. Since the program began in 1990, approximately 62 Forest Stewardship private landowners have enrolled in the program and are conducting forest management activities over 30,000 acres under agreements spanning 10 or more years. The program provides cost-share assistance for the development of Forest Stewardship management plans over the 10-year period, but some landowners commit to maintaining their projects for up to 20 additional years. In Hawaii, the Forest Stewardship Program leveraged over \$11 million in state and private funding to the support provided by U.S. Forest Service through the Cooperative Forestry Act.

Similar to a number of other states, DOFAW entered into a cooperative agreement in 2008 with the Natural Resource Conservation Service, Hawaii Association of Conservation Districts and the U.S. Forest Service to leverage partner resources and provide better service to Hawaii's forest and agricultural producers. Since signing this "Joint Forestry" agreement, FSP in Hawaii has increased program participation by more than 80% and is managing a growing list of approximately 123 people that have expressed interest in the program. The Division, through its landowner assistance network, reach over 170 landowners and community groups in the past year, providing them with technical guidance on responsible stewardship of their forest resources.

Hawaii Interagency Biosecurity Plan

The Hawaii Interagency Biosecurity Plan was created in 2017 to increase the state's ability to prevent and manage invasive species coming into the state. The HIBP points to gaps in our existing biosecurity system which consists of a network of state agencies and partners mitigating impacts of invasive species. Many actions in the plan fall under DOFAW's mandate although the Hawaii Department of Agriculture is the lead agency. The HIBP addresses important issues identified in Hawaii's Forest Action Plan such as biological control, rapid response planning, and increased capacity for controlling invasive species in Hawaii's watersheds.

The 147 actions in the Hawaii Interagency Biosecurity Plan (HIBP) provide a roadmap to a safer, more sustainable Hawaii. Implementation is underway and ahead of schedule. The 10-year implementation window (2017-2027) is now 20% complete, and 50% of HIBP actions have been initiated, are ongoing in perpetuity, or have been completed. Full details are available at <http://dlnr.hawaii.gov/hisc/plans/hibp>

Landscape Scale Restoration

Rapid Ohia Death public outreach was supported by a multi-year LaSR grant. Milestones for the project over the past year include the release of a 30 minute film "Saving Ohia" which documents impacts of Rapid Ohia Death on Hawaii island and the importance of ohia to island communities. The documentary aired on prime time on all five major network local affiliates and premiers were hosted in theaters across the islands. Additionally five biosanitation workshops targeting ecotourism operators were held across the state to teach tour operators about Rapid Ohia Death and how to prevent spread.

Work continued at the Puu Waa Waa Forest Reserve to protect some of the best remaining dry and mesic forests in Hawaii. One fence unit has been completed and a second is underway to protect rare plants as well as allow for forest restoration. Invasive trees were removed from both and firebreaks were maintained to protect these areas from wildland fire which is a high risk in the area. In addition 10,000 seeds from 10 different native species were collected for propagation and outplanting for reforestation of the area.

Also on Hawaii island, forest conservation actions continued in the Ka'u Forest Reserve. The fencing unit has been completed and fence maintenance and weeding occurred in the project area resulting in restoration and protection of a high priority native ecosystem. The project has been a catalyst for forest conservation in the area with an adjacent forest protection fence recently being funded by the state legislature.

Urban and Community Forestry

The urban and community forestry program awarded community cost-share grants to nine exciting projects directly responding to priorities in the State Forest Action Plan. Education and outreach projects include: "Re-Tree Hawaii!" a workshop series aimed at teaching proper planting and care for wilt resistant koa trees and educating residents on value of urban trees for soil and water conservation, community well-being, and climate change mitigation (West Oahu Soil & Water Conservation District); creating a children's book in collaboration with students, tree experts, and artists on the value of urban trees and green spaces to distribute to Hawaii public schools (Blue Zones Project and Washington Middle School); and professional development training for natural resource professionals to learn about Hawaiian stewardship as a way to increase their effectiveness in collaborative stewardship (Halau Ohia). Innovative projects to improve urban tree care and increase urban tree canopy include efforts by Malama Maunaloa and the BizGenics Foundation to plant and maintain trees in partnership with schools, residents, and local businesses, and supporting a project to developing a community forest management plan for Kunia Village.

In 2018, the program reached over 5,000 community members across the state through Arbor Day educational tree giveaway events. Attendees, volunteers, and partners learned about the urban forest and how to plant and maintain new trees. The program also helped two new communities to achieve Tree City USA recognition: Mililani Town Association and Ohana Military Communities. The Tree City USA program recognizes communities for achieving high standards in managing their trees.

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